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IN AMERICA

THE AMERICAN
BEE JOURNAL

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DEVOTED EXCLUSIVELY TO PROGRESSIVE BEE CULTURE.

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Preparation of Honey for the Market.—including the production and care of both comb and extracted honey. This is a new pamphlet of 32 pages which we have just published. At the last meeting of the North American Bee-Keepers' Society, we were appointed on a committee to prepare instructions on the Exhibition of Bees and Honey at Fairs; this is also added to the above. Price, 10 cents.

Bee Pasturage a Necessity.—We have just issued a new pamphlet giving our views on this important subject, with suggestions what to plant, and when and how. It is illustrated with 26 engravings, and will be sent postpaid to any address for 10 cents.

The "Conqueror."—We have received from Messrs. Bingham & Hetherington a sample of their large smoker, which they call the "Conqueror." It certainly possesses capacity sufficient to conquer the worst colony of hybrids that can be found. The stove or fire-pot is 3x7 inches, with a chimney 7 inches high, and bellows in proportion. Almost any body would be justified in making a great blow with this smoker.

Articles for publication must be written on a separate piece of paper from items of business.

On Friday, March 24th, America lost her most distinguished poet by the death of Henry W. Longfellow, at the ripe age of 75 years. For fifty years his sweet and tender poems and charming stories have been read and re-read by the people, and they were enjoyed by rich and poor, learned and unlearned alike.—*Ex.*

A Reversible Frame.—J. S. Duncan, of Browning, Mo., has sent us a sample of his reversible frame for bee hives. Accompanying it is the following description, which will give as good an idea of it as we could do:

By the loose link at each corner and the movable arm the frame is reversible, and with the square frame, sides or bottom may become top, for the frame the pieces are all cut one length, and the one nailed on the other; this is for hives with rabbits. The triangle link is hung on the accompanying hooks, properly spaced and driven into the side of the hive, making the hive simpler and easier of construction. To keep the frames from swinging against each other, I use a thin strip of wood with wire drawn through the proper distance, and fastened to the bottom of the hive. The links are made by having a piece of wood or iron the shape you want the link, roll the wire around and cut.

A correspondent in North Carolina wishes to know how to prepare bees in the Simplicity hive for transportation by rail, to hold frames steady, etc., which we briefly answer: Prepare a bottom gauge, by using a strip $\frac{3}{4}$ of an inch thick by 1 inch wide; let this be as long as the hive is wide; saw notches to the number of the frames, in which to fit the bottom bars to hold them steady; now set the frames in firmly, spread them properly, and drive a $1\frac{1}{2}$ inch wire nail in the lug at each end of the top-bar. Cover the whole hive (if the weather be hot) with 16-mesh wire cloth; put 3 strips (1 at each end and middle) of inch lumber by 2 inches wide, crosswise; fold a cotton cloth 8 thicknesses, dampen it and tuck under one strip, then at night close the entrance tight. Properly mark it, on top, "Live Bees—this side up; keep out of sun and rain." If weather be cool, use much wider cross-blocks on top.

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Artificial Comb Honey, Beeswax, etc.

Mr. H. S. Hackman, of Peru, Ill., propounds below a few questions relating to the beeswax production of the United States. Short and pointed as are the questions, but slight reflection will be required to convince the reader of their importance :

I have received a letter from Mr. R. A. Burnett, commission merchant in Chicago, in which he says : "Happening to pick up the BEE JOURNAL of this city, I noticed your communication on comb honey. It is true that many people think all the nice comb honey that they see in my store is manufactured and tell me so daily ; I am often so weary of the effort to convince them of the impossibility of its being manufactured, that many are allowed to deceive themselves. Perhaps that is better than that they should think I lied about it." This corroborates my last article on artificial comb honey. Will you or some of your contributors please write an article on beeswax, and answer the following questions : 1. What is the wax product of the United States annually ? 2. What is the principal use wax is employed in or for ? 3. Can any other product or substance be substituted for beeswax ? 4. What will be the commercial value of wax, as scientific bee-keeping advances ? 5. Can a progressive bee-keeper afford to sell wax at 20 cents a pound ?

1. There are no data for arriving at the wax product of the United States with anything like precision. Several years ago, with the information then at hand, we estimated the beeswax product of the country to be about 3,000,000 pounds, which, at 20c. per pound, would amount to \$600,000.

2. For wax candles, artificial flowers, medicinal uses, varnishes, and many other purposes. The most of it, till quite recently, has found a foreign market, since which there has been a ready market at home for nearly all the beeswax produced.

3. Yes, in many ways ; it is largely mixed with cerasine, paraffine, and perhaps other substances, for various purposes. Much of the bleached beeswax of commerce, and white wax, is composed principally of cerasine or paraffine, and in many cases they have entirely supplanted beeswax. We do not believe, however, any substitute for it can be used in the apiary, or any adulteration practiced with economy, for purposes in which it is to be brought into contact with the bees. Several attempts of this kind have been made, but they always resulted in failure so far as we have been informed.

4. It is impossible to foretell. Per-

haps its value will not advance proportionately with the decrease in production, owing to the employment of cheap substitutes for it.

5. No, as compared with the price of honey, and the ready market being established for the latter. Probably, in the near future, the majority of the wax production of America will be consumed in the manufacture of comb foundation, and many progressive apiarists will themselves become buyers in the market instead of sellers, as the tendency of progress appears to be to prevent production rather than to encourage it. If twenty pounds of honey, or the time of the bees equivalent to that amount, be required in the making of one pound of comb, certainly no thoughtful bee-keeper will encourage or allow its production if he can profitably prevent it.

Artificial Swarming.

The season is rapidly approaching when the bee-keeper will wish to take every advantage to secure the early flow of honey. Many may have bees in box hives which they do not wish to transfer, either from want of time or timidity, or, perhaps, they may prefer to keep them in the boxes, and to run the swarms into frame hives. For this purpose we suggest the following methods of artificial swarming, which will be found preferable, we think, to natural swarming, as they are attended with no risk, but little loss of time to the bee-keeper, and scarcely no interruption of work with the bees, as is always the case with natural swarming, occurring as it does just at the time when time is most valuable with them : Select some bright, clear day, when the workers are busily engaged in the fields, remove the hive 10 to 20 feet from the stand, and put in its stead a frame hive, with half or two-thirds its complement of frames filled with bright, clean combs, or good foundation and division boards at the sides ; turn the old hive bottom up, and invert an empty box over the open end ; now blow in a little smoke from the lower end of the hive, and commence a series of sharp drumming or rapping on the sides of the hive with a small hammer or stick ; do not drum hard enough to loosen the combs or start them to dripping ; after rapping 4 or 5 minutes, cease for a minute, then resume again, and keep it up for five minutes longer, or until the bees have deserted the hive and clustered

in the box, which is a pretty sure indication the queen is with them. Now cover a sheet over the old hive, and empty the bees from the box on a sheet in front of the new hive on the old stand ; watch them as they crawl up, to discover the queen ; if she goes in, place the old box on a new stand, and your work is accomplished.

If the bees to be operated with are in frame hives, remove the old hive to a distance, and place a new or empty one on the old stand, when the bees are working busiest ; lift the comb on which you find the queen from the old hive, destroy queen cells on it, if any, and place in the center of the new one, with the queen ; fill in frames each side filled with clean combs or foundation, proportionate to the strength of the colony, and confine to the center of the hive with division boards ; put on the blanket and hive cover ; now take the frames one at a time from the old hive, and shake most of the bees off in front of the new hive, destroy all the queen cells in the old hive but the two best, or give them a laying queen after destroying or removing all the cells ; put in an empty comb or frame of foundation in place of the one removed to the new hive, spread the blanket over, or put on second story with sections or extracting combs, and place the hive on a new stand well removed from the old one. The above methods are usually an effectual cure for "swarming fever," and interferes but a few hours with work.

Another method which can be practiced with good results, is to examine the colony threatening to swarm, remove all queen cells started, then remove the hive to the stand occupied by a very weak colony, and remove the weak colony to the stand formerly occupied by the strong colony. In strengthening and depleting in this manner, however, it is much safer to confine each queen on the surface of a comb in her respective hive for twenty-four hours, to protect her from the returning bees, which sometimes regard her as an intruder. For this purpose a cap from a Harris introducing cage will be found best.

In all cases where foundation or empty combs and division boards are used in dividing or artificial swarming, care must be used to spread the brood chamber and give additional combs or foundation as fast as the bees are ready for it. Use good foundation in preference to doubtful combs.

A House Apiary in Italy.

The Italian monthly periodical, *L'Apicoltore*, published at Milano, Italy, furnishes a long descriptive and historic sketch of the very substantial building to accommodate about 150 colonies of bees with a permanent home, provided by that eminent bee master, Signor F. Bianchi. By the engraving on this page it will be seen that there is an observatory tower and *horloge* (clock) at one end, and a two-story tower and flag staff at the other, with an elevation for a "study" over the passage-way in the center.



MISCELLANEOUS.

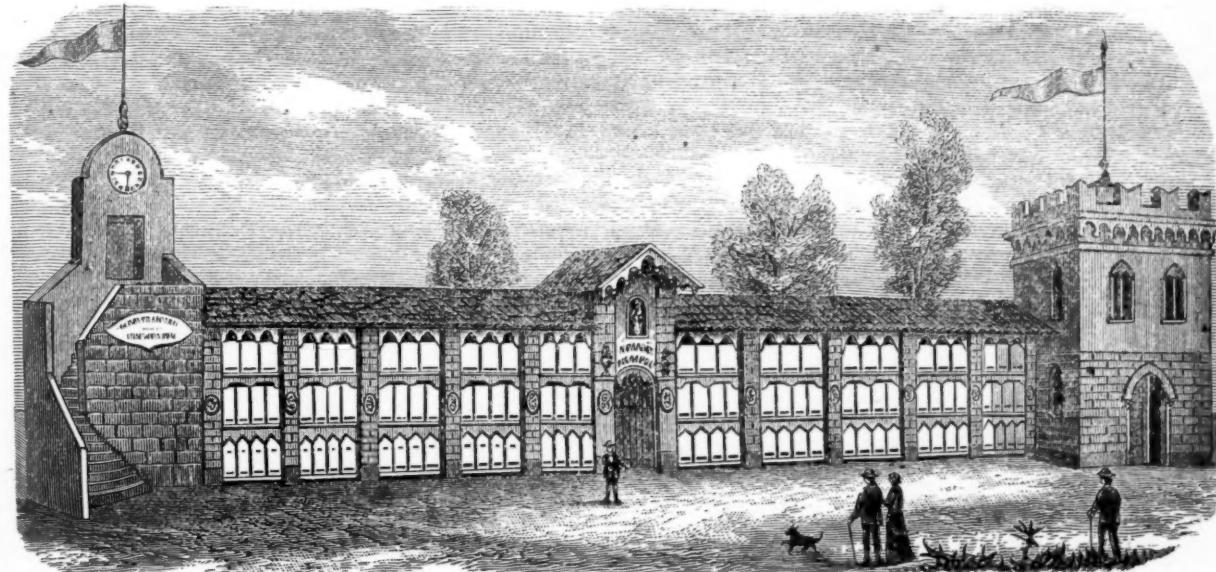
Queer Industries in New York City.

—The following item, clipped from the *Lewis Co., N. Y., Democrat* of Feb. 23, 1881, was sent to us by Mr. N. F. Case, of Glensdale, N. Y., who wants us to "notice" it:

The investigation of the census men have led to some queer developments in the manufactories of New

are filled with glucose, which is the sweet syrup of common corn, and looks and tastes like honey. The cells, once filled, are closed by smearing a hot iron plate over the wax tops, and the product is sold as the "best clover honey." It is in great demand, and outsells the regular honey. Gallons and gallons of the best tomato catsup are made from the tomato skins which are purchased from the great tomato canning establishment.

There are frauds enough to enumerate the real ones, without adding the fanciful stories about fraudulent comb honey, which are but the vague imaginations of some "crank." There is no truth in that part of the item.



Apiary of Signor F. Bianchi, in Italy.

The hives in Italy have doors at the back, for examination and manipulation—the interior of the long building is, therefore, used for that purpose.

The whole building has a substantial appearance and is very attractive not only to the bee-keepers of the surrounding country, but to Italians in general. The care of bees is a pastime and study for the wealthy and learned, and such a building is a pride to its owner; but here, where bees are kept more for the money that can be made out of their labors rather than for a patient study of their habits and peculiarities, such a building is not desirable; and on many accounts would be decidedly objectionable.

York and adjoining cities. The largest single industry in New York is that of custom made clothes. The making of paper patterns employs hundreds of hands, and ten large houses being engaged in it, use tons of paper. There are factories for making dried blood, the dummies that milliners use to show dresses on, theatrical armor and jewsharps. The use of adulterating substances is getting to be general. Castile soap is made of grease and terra alba, or white earth, and which earth is used largely in candy making. Glucose, which is corn starch, is used heavily by the sugar refiners. There is a firm engaged in making honey and honey comb. The honey comb is made by machinery of paraffine wax, and is an exact imitation of the regular thing, except that the bees fashion their cells of walls only 1-125th of an inch wide, while human artificers have not yet become that deft. The cells

Too Much Honey.—The *Los Angeles (Cal.) Times* tells this story:

Eastern people do not always appreciate the scale upon which Californians lay out their work. A case in point, is that of an eastern merchant who wrote to a Los Angeles County bee man for a sample of his extracted honey. His request was complied with, and the merchant was so well pleased with the appearance and good quality of the honey that he sent an order for all the man had like that. The gentleman, thinking the merchant might not be reckoning on the amount he had in stock, wrote him that he had 16 tons on hand, but that he might as well make it 20 tons, which would be just 2 car loads, and that he would ship it immediately. He received a telegram a few days after, saying: "Keep your honey! I only want a case or two."



For the American Bee Journal.

Bacterium—Its Relation to Dysentery.

GEO. THOMPSON.

Ever since the BEE JOURNAL was started, dysentery and its cause or causes have been more or less discussed; but of late there seems to be a growing desire to thoroughly investigate this so-called bee disease. Bee-keepers are becoming conscious of the fact that a knowledge of the causes and prevention is as necessary to successful, and therefore profitable bee-keeping, as bee pasturage. I have watched and read with much interest the divers opinions upon the subject, and I think from present indications the time is not far distant when all the facts will be generally understood and settled. I have never taken much stock in the pollen or bacteria theory, because I think the reasons given are not tenable. What is bacteria? According to the well-versed in science in this country, and in Europe as well, bacteria is found everywhere in decay and fermentation, and in looking over the "Library of Universal Knowledge," I find the following description: "Bacterium—a minute and low form of vegetable organism, refractive, spherical and mobile. It occurs as a fossil; is found in the sap of plants, in the fluids of men, animals, insects, larvae and eggs; is abundant in incipient stages of fermentation and decay of animal and vegetable tissues and substances. Bacteria act as a ferment, changing cane sugar and starch to glucose. They are communicated as germs floating in the air; they assist in the ripening of fruit, and in the regeneration of organic matter during the formation of cell structure. They thrive equally well in acid, alkaline or neutral fluids. Many phenomena, otherwise attributed to spontaneous generation, are caused by these minute and omnipresent organisms."

The above, in a very clear and succinct manner, informs us what it is, where it is to be found, and what it accomplishes. It is no reason, to me at least, because bacteria are found in fermented pollen or honey, that they are the cause of dysentery. As well might we say if a man has the same malady, that bacteria was the cause of it because they are found in his food, and in the very air he breathes. As well might we argue that an animal is brought into the same condition by eating decayed vegetables, because they are found there. I consider that this state or condition is brought about, not by bacteria, but by a changed condition of food.

Geo. Grimm, in February *Gleanings*, has an excellent article upon the subject, one well worth reading three times over. And on page 104 of the BEE JOURNAL is an article by Chas. Dadant, one of the best I have ever

seen. I believe with him, that diarrhea is a more appropriate term. I have often questioned the propriety of calling it a disease, for in the most of cases a good cleansing flight is all the remedy the bees require.

Geneva, Ill.

For the American Bee Journal.

The Coming Bee—Its Production.

THOMAS BALCOMB.

Not seeing much of late in regard to the "coming bee," I hope the suggestion or two I make will not be out of place. I have taken considerable interest in the articles that appeared from time to time in the BEE JOURNAL upon the coming bee, and I think it hardly advisable to let so important a subject cool down, considering its great importance, and the vast field that is open for study and practical experiments.

I have no doubt that there are many apiarists whose greatest wish is to produce that coming bee, and are working their apiaries with that object in view. But, on the other hand, there are those who ridicule the subject, and think the coming bee will never come. Be that as it may, it is evident that there is a great variety of opinions upon the subject, also upon the qualities of the various races of bees, for there are very many that consider the Italians good enough, and others that can see a superiority in other races over the Italians, and even a few that prefer the black or German bee to the Italian.

As this coming bee must have the desirable good qualities that are now disseminated throughout the various races of bees, and as opinions differ so much in regard to these various good qualities, it may seem difficult to many where to make the starting point to produce this coming bee. I have no doubt that if the matter was left to itself, that in the distant future there would be *Apis Americana* from natural causes, inasmuch as the Asiatic and other races of bees are getting introduced and disseminated throughout the land, they must in the course of time get so hybridized that a distinct variety of bees would be the result, best suited to the climate and surroundings. For any one man to undertake to produce the coming bee, I think would only result in a partial failure. True, the apiarist that can control a considerable area of country can, by a careful selection and crossing, produce a superior strain of bees; but with such a variety of climates and opinions, it is doubtful in my mind, whether the experiments of a few would benefit the apiarists of the country generally.

Still, notwithstanding the many difficulties that stand in the way, I think much good would result by co-operation in which many might participate to help to bring to light *Apis Americana*. I think that if a society was formed of the advanced apiarists of the country for the purpose of accurately testing the good qualities of the various races of bees, then, by a

careful system of crossing, I think something definite might be arrived at, but even with the formation of such a society, it will take many generations of bees, and many failures, before anything satisfactory is accomplished; therefore, at present, I see nothing to indicate a near future for the coming bee. That should not deter those that love our interesting occupation from experimenting and improving their bees.

The coming bee must arrive sooner or later. The possibilities of fertilization in confinement are so few, that we can hardly expect any assistance from that source, unless experiments are conducted more extensively, which could be done by the same society. I think success will seldom be reached by those who conduct their experiments on a small scale, such as boxes, barrels or the like, for I think the queen, like the higher order of animals, has her period of heat, therefore to be successful, I think some kind of a structure will have to be erected in which heat and light can both be regulated and so arranged as to accommodate several hives containing the queen and drones to be mated; but each hive to have two entrances, one opening on the inside of the structures, and the other covered with perforated tin, opening on the outside. Even then many failures will result from the queen being able to pass through the entrances that were only intended for the workers.

Luling, Tex.

For the American Bee Journal.

A Standard Frame.

W. J. DAVIS.

The action of the British Bee-Keepers' Association, as reported on pages 179-180 of the BEE JOURNAL for March 22, comes so near my own views of the right size of frames for the brood chamber, that I will take the liberty of reporting my experience with frames.

I have used the standard Langstroth frame for 21 years. I think the depth of frame right (viz: $8\frac{1}{2}$ inches, inside measure). But I am convinced that for this latitude it is too long. It is a point that all skillful apiarists of the colder parts of our country agree upon, that the size of the brood chamber should be contracted, during winter and spring, for the better husbanding of the heat generated by the bees. It is also a fact that when the bees of a colony cluster for mutual protection against the cold, they form as near a sphere, or ball, as their home and combs will admit of, and no one will question but what that shape will expose the least number of bees on the outside of cluster. Now it follows that if the compact cluster of bees be 6 inches in diameter (and such a colony would be considered a good one in the month of March), and the combs be 18 inches in length, from front to rear, they occupy in the greatest diameter but $\frac{1}{3}$ the length of the hive when reduced to its smallest size by the use of division boards. The unoccupied part

of the combs would remain cold, or warmed at the expense of large consumption of stores, if not in comfortable winter quarters. With this view of the matter I made a frame with 14 inch top bar, making a frame $8\frac{1}{2} \times 11\frac{1}{2}$, inside measure. For top bar and ends I use $\frac{3}{8}$ stuff, $1\frac{1}{8}$ inch wide. I have used them 2 years, and can say that for both winter and summer I am highly pleased with them. I have at present 35 of my colonies in short frames. They are simply the Langstroth frame shortened.

I do not write with the view of having any one adopt the size I have mentioned; neither do I claim that it is the size, but I will venture to predict that for all localities where it is necessary to economize the heat of the hive for 7 months of the year (as is certainly the case in this locality), shorter frames than the original Langstroth will grow more and more in favor with bee-keepers. There are economic reasons for the use of short frames even in warmer latitudes, which I may mention in the future. The Rev. George Raynor rightly says: "The size of the frame does not necessarily fix the size of the hive.

Youngsville, Pa.

For the American Bee Journal.

Reply to Messrs. Demaree and Casson.

JAMES HEDDON.

Probably the discussion of the bee question, and best way of getting better ones, has gone as far as the readers care to go with us. We have had a good time, and I, as one of the disputants, have enjoyed the discussion, if no one else has. I like to read all of Mr. Demaree's articles, because they possess that vigor of expression that the lover of literature relishes. I cannot, however, refrain from making a statement, the truth of which is only equaled by its plainness, which is, that it seems to me Mr. D. is lacking in clearly understanding my premises and drawing logical deductions from them. Perhaps I do not make myself clear enough:

1st. I believe the best bees that have ever been imported to this country are Italians, and that they are the longer-bodied, darker-colored variety.

2d. I believe that while these bees are the best, all things considered together, the brown German bees are in several leading and important peculiarities, superior to them and all others.

3d. I believe that traits in bees are hereditary, and that the better way to get the best bees quickest, is to cross these two races, and in so doing breed in the desirable, and out the undesirable qualities of each, to the best of our ability.

4th. If I can understand the sentences penned by Messrs. Doolittle, Root, Langstroth, Newman, and last, but not least, Chas. Dadant, these gentlemen think about the same. Trusting to the memory of the reader, I do not think it necessary to quote from these writers. True, Mr. Davis, a gentleman of integrity and experi-

ence, has returned to the goldens, but yet, if he has not some goldens of far more illustrious habits than the ones I purchased from him some ten years ago, he has yet something of great value to learn.

This country is full of experienced men, such as E. J. Oatman, and the Dadants, who would be very hard to convince that Mr. Davis, or any other man, had any bright Italians equal to the leather-colored variety. He undoubtedly thinks so, but I do not, and cannot, though it is ever so true. I have not had the evidence, and owing to the fact that I have had such a good chance to have it, I doubt its existence. Back numbers of the BEE JOURNAL show that Mr. Dadant understands the argument of Mr. Demaree to be against the virtues of the leather-colored or dark Italians; so do I. Whether these dark bees are pure or hybrids, that they are the best, is the claim that Mr. Dadant and others of us urge. In speaking of Mr. Dadant and myself, Mr. Demaree says: "The only wonder is that a man of his (Dadant's) experience, should be slow to learn that the imported Italian is a hybrid. It is not so surprising, however, that a person holding such views as those propagated by Mr. Heddon should be found in darkness." I shall have to say to this, as the Chicago *Times* did of J. Cook's lecture: "One hundred dollars reward is offered for any man that can tell what Mr. (Demaree) is talking about."

Then he warns me that hundreds of bee-keepers are going right on breeding up to the highest point of excellence, regardless of my opposition. To this I reply: You who have read my views on this subject, tell me, is this viewer insane?

I can hardly suppose it would become one who believes the golden Italians to be "hybrids in character," to make such a dreadful fuss about a little more hybridizing with so valuable a bee as the brown German, especially when governed by the wisdom of American bee-keepers of the nineteenth century. I did not say that I was "aware" that leather-colored bees were hybrid; I said I suspected it, and wrote so among the first, or was the first. I thought best to leave it to such explorers and experimenters as Mr. Dadant, to become "aware."

Mr. Demaree objects to my witnesses, ostensibly because their names were not given, but perhaps because they do not testify to suit him. I have known lawyers to do just such things. I may have failed, but I have sought to gain a reputation for common honesty where there was nothing at stake at least, and I was led to think that if I said that these men were of experience and well known to be such, and wished their names kept private to save postage stamps and time, that my word would suffice. I think so still. In this respect I am willing to grant to others all I ask for myself. I see no proper comparison between the precision of witnesses in this discussion and a case tried in a Justice court. Does Mr. Demaree

not hold some stories as divinely true, whose witnesses lost the cheerful habit of living in this world, some hundreds of years ago? I see no proof sustaining Mr. D.'s premises, from his "live witnesses." I have met and talked with Messrs. Jones and Poppleton, and I have corresponded and heard something semi-occasionally from Messrs. Davis and Doolittle, and truly, I should be surprised if I found on inspection, their bees more yellow than my own. Messrs. Poppleton and Jones run for extracted honey, and they do not miss the lack of comb building qualities in their brightest yellow bees, which they may possess to some extent. None of these men had any special strain of crossed bees to compare side by side in the same field and season.

In what I quoted verbatim from a man of close observation and study, and one who makes honey production his entire business and support, and not a side issue, I showed to all who are willing to credit me with that common honesty which would not fabricate something from nothing, that well bred crosses can "gather a large yield," where there is "but little nectar," or "none to be gathered" by the golden Italians of the amateur.

I wish to thank Mr. Casson for his kind words and manner of giving timely caution, in regard to high board fences, and no one can doubt that his experience in regard to the house proves that house shade on certain days is dangerous to some loaded bees; but it also proves that there is a difference between houses and fences, because, though I have kept my bees for more than one-half of my time in yards surrounded with high board fences, I have never seen the loss of a single bee result from it. We are told that bees make from 4 to 10 trips daily, each; that they can fly from 1 to 4 miles per minute, and that the time is mostly used up in loading and unloading, etc. Now, if you have a yard of $\frac{1}{4}$ acre in size, and a bee starts from one fence and flies over the opposite one, the elevation is so slight that I think it hardly worth our mention, and those near the fence that is between them and their direction, pass out and into the yard by a circular motion that loses not more than one-thousandth part of the time occupied in that trip. So far as I have ever been able to determine the losses by rise and fall of lines, and shade in cool weather, has been tenfold offset by the gain of shade in hot weather, and more especially by time saved from idle gossipers and thieves, children and stock getting stung, and nervous people fearing the same. When I start another apiary out in the country, perhaps I will omit the fence and use barbed wire, and then if I get twice as much honey, I will let you all know it, by the "brandishing of my little pen."

I am just making into kindling-wood 100 bottom-stands that had slanting alighting-boards. I used them till they were too old to be of service. I used them because I had them. I have made none but square ones for the past 7 years. My bees

prefer crawling up, to crawling down hill, loaded or unloaded. (No bred-in trait, they had it when I first obtained them). When one of them would alight just enough below the top of the slant of the alighting board so he could not see over, he would puff a few times and rise on the wing to see if he was surely all right about location. I shall waste no more time beveling boards.

One of my witnesses (the fellow who obtained no surplus from the "goldens of the period,") still enjoys the cheerful habit of living in this world, and writes that he is ready to be cross-questioned upon Mr. Demaree's witness stand. His name is J. Vanderwert, Laceyville, Pa.

Dowagiac, Mich.

For the American Bee Journal.

Yellow, or Leather-Colored Bees.

J. A. BUCHANAN.

Quite an animated controversy concerning the color of the Italian bee has been vigorously conducted in the BEE JOURNAL of late, and I am pleased to see it, since, by the discussion much valuable information, and no little fun, has grown out of it. Practical bee-keepers, of unlimited experience, have long since become aware of the fact that the dark, leather-colored Italians are superior in nearly all respects to the light-colored bees. It is true that in selecting and breeding to obtain a light color, an occasional colony will prove to be very good honey gatherers and comb-builders, but this is an exception, and not the rule.

Since the summer of 1865, I have been experimenting with the Italian bee. Prior to that time, I felt a great anxiety to test that race of bees, but serving in the army and bee-keeping would not go well together. Since that my specialty has been the cultivation of the Italian bee. For the first ten years I spared neither time nor expense in my efforts to produce a strain of bees that would have no superior as to lightness of color, and at one time it was gratifying to me to have my visitors acknowledge I had the finest colored Italians they had yet seen; but they were a miserable failure in almost all other respects. They were poor comb-builders outside the brood department, were generally light in stores, weak in the spring, and by no means equal to the old black bees. I had my satisfaction in color, but it became necessary in my case to get some profit, and I was about to give up the business, when I was advised by a friend to send for leather-colored stock. This was done, and I soon became satisfied that they were greatly superior to any bee I had yet seen. Here my views of the Italian bee changed again. The first impression I had was that there must be some blood of the German bee introduced into their make-up, and am still of opinion that this strain was procured from districts in Italy where still exists blood of the black race. Although this dark strain of Italians

has the appearance of a hybrid whose blood of the yellow race predominates, there is in its nature nothing that would lead one to believe it a cross-bred bee. There is no disposition to become alarmed and rush down off the combs, and quarrel with the operator, as do the hybrids of this country.

For some years I have been experimenting in crossing the blood of the German and Italian bees, and am convinced that by a judicious system of cross-mating the two races with a view of correcting the defects found in both, we can produce a strain of bees having the good qualities of both united in one, and but few, if any, of the objectionable points retained. The German bee possesses some valuable traits not found in the Italian bee, and of course some very undesirable traits, prominent among which is the disposition to allow the moth worm to overcome them at times when weak in numbers, and their annoying habit of dropping from the combs while being handled. Both these, as well as other faults, may be corrected by the introduction of some blood of a strain of Italians possessing great perseverance and gentleness of disposition.

It is my firm belief that the "coming bee" will not be of any pure bred race. To those who are selecting and breeding their very choicest yellow Italians, expecting to produce a strain that will outstrip all others, I want to say, you may spend your whole lifetime at this and then you will have no better bee for profit than you can produce by crossing the German and Italian races.

To advocate the breeding of anything other than the golden-colored Italian, is to bring down upon our heads anathemas, thick and heavy; but as I am an old and confirmed sinner on this subject, and have plenty of good company traveling in the same boat, I have no need to feel alarmed about my wayward condition. Holliday's Cove, W. Va.

For the American Bee Journal.

Do Bees Excrete a Dry Powder?

WM. J. WHITFIELD.

In the BEE JOURNAL of Jan. 11, 1882, page 26, Prof. A. J. Cook says: "I have never found any support of the theory of the late Mr. Quinby, that bees excrete a dry powder in winter." What I wish to know is this, if bees young or old, when in a perfectly healthy condition, let it be summer or winter, do not void their feces in a dry powder, how then? I have thought they did so for years. I have had bees confined to the hive for over 5 months, so they could not get out of the hive, and when liberated in the spring parted with nothing that I could see, but would leave a large quantity of dry powder on the bottom board. This I always took for their excrement. In my opinion, any plan for wintering that does not look to this end is at fault. I have gone to quite a heavy expense with this end

in view with my bee-house, and if it should fail to bring about this result, I shall consider it a failure, for I know I can accomplish it out-of-doors; but with a number of hives it is a great deal more trouble and expense. Now, if Prof. Cook will agree to fix one or more hives this fall as I shall direct, I will give a plan, and he to report the result through the BEE JOURNAL, that will keep bees confined to the hive for 6 months, and at the end of that time, when liberated, will void nothing but a dry powder, and if he wishes to see what they void through the winter he can put a dish under the hive and collect it. I shall put him to some trouble, but not much expense.

The plan is this: Take a bottom board 3 feet square, nail it down on a 3x4 scantling just at the two ends, put this on 2 more pieces; fix it to face the south, the scantling to run east and west in the center of the bottom board; cutout a piece 8 inches square, cover this with wire-cloth as coarse as you can get and not let the bees through; now, from the end of the wire-cloth to the end of the bottom board cut out $\frac{3}{8}$ inch deep by 8 inches wide, for an entrance. If you have not a close-end frame hive, you had better use a box hive, for you must not let the bees get off the combs, as they will surely do if you use any of the hanging frames that I have seen; the hive must be not less than 1,800 square inches; 2,000 would be better; must be filled with combs and bees, and have not less than 35 lbs. of good honey. On the first of September set the hive on the bottom board just over the wire cloth; have it fit tight down on it all around, put a piece of board on over the entrance where the $\frac{3}{8}$ was taken out, to come from the hive to within 1 inch of the front, put a 3 foot square box on the bottom board. This must be 3 feet high, well made, so that it is tight; fill this in with dry sawdust. It must be dry, well packed down, and well covered. The finer it is, the better. Put a piece of board on under the wire-cloth; have it fit tight. It will be well to rub a piece of tallow on the wire-cloth, or the bees might wax it over; now leave it entirely alone. Let the bees wax it up tight all around the bottom, top and sides; let them carry in all the pollen they wish to. About the middle of October close up the entrance tight, and take away the board under the wire cloth, to give the bees air. Have another box ready to put over the first, just 1 inch larger, made tight and well covered; let it come down just 3 inches lower than the bottom board and rest on the same pieces that the 3x4 scantling does; keep it up 2 or 3 inches from the ground, to let the air pass freely under all. Do not touch it again till the yellow willow is in bloom, then just at dark take away the outside box, open the entrance and let the bees out, clean all dead bees or dirt there may be in the way, so you are sure they are free to get out, put on the board under the wire-cloth and get up the next morning to see them fly out. I think you have got the powder all right, and that the bees will void nothing on flying out first.

The idea is to prove or disprove the theory of Mr. Quinby, and as we let the bees wax all tight but the wire-cloth, we must keep them warm and dry outside of the hive. Have it so they do not know when the weather changes, let it be hot or cold. The bees will send all the moisture out below, if they do not feel the cold above or on the sides.

Dundas, Ont.

For the American Bee Journal.

How the Grapes are Destroyed.

M. RICHARDSON.

There appears to be a mistaken idea with a good many about bees biting grapes. It seems to me that among men as sharp as the bee men are about most things, there need not be such a diversity of opinion. In the first place, I will say that I know as well as I know anything that they do not do it. Let us take a little close observation and see if we cannot prove how they are opened. All that I have seen were as follows: The skin is picked up near the top of the grape and torn down the grape, usually the hole growing wider as it descends, and the skin left hanging in a sort of tag about half an inch long. The skin is not bitten on the sides of the wound, but torn from the top where it was first taken hold of. Now what kind of a bee could take hold of a grape skin and tear it like that? If it had hold of the end with its teeth, it would have to stand on its two hind feet, and be able to tear both sides at once, which no honey bee living is half strong enough to do; and more than that, if a bee will not bite through a red clover blossom where there is plenty of nice honey to be obtained, she never would bite through a grape skin, which is three times as thick, to get at a thin, watery juice, that she will hardly suck at all until the sun and air have dried and sweetened it. Then she will work on it some and buzz around it a great deal, and a careless observer is ready to lay it to them, simply because they are there and he does not see anything else to lay it to.

My son lived near me and raised a good many grapes, and I kept bees. He kept complaining to me that my bees were destroying his grapes, it was too bad, etc. I had some grapes between my house and barn, which were torn in the same way, that I passed often, and I did not have to watch long to find out where the trouble was. I pointed it out to him, since which I do not hear any more about my bees destroying his grapes. The marauder was the oriole, fire hang-bird, red bird, or English robin, for it is known by all these names in different places, although the red bird is a darker red, and lives in the woods. I suppose grape growers will expect to see the bright peach-blow colored bird that is seen and heard in apple blossom time, tuning up his song of gladness as he hops among the flowers. The oriole, like the turkey and some other of the male birds, is nearly

twice as large as the female. The female is a small, brown bird, with a tinge of yellow and some light spots on close examination, but at a little distance looks brown, and the young ones are all of the same color until they shed their down, which they do at the south in the winter. But when you see a small, brown bird, that might be easily mistaken for a sparrow, that seems to come from the top of a tree or the clouds, and flies right into the leaves of a vine—for they seldom light where they can be seen, but go very quietly, and when you drive it out, flies right into the leaves again to alight, and as he flies says, quink, quink, quink—that's it every time. They make another loud chattering noise when disturbed, but not as often. Look where it started from and you will find fresh work. What satisfaction it is for it to pick open so many grapes (it will do a hundred in a few minutes) when it does not eat three, I do not know; but I suppose it tastes the juice and looks for a sweeter one, and when it gets enough they don't taste so good, and it keeps looking for one that tastes better, as children do when they go into an orchard. It is just as bad on sweet corn, only that the husk makes so much hard work that it is glad to stop when it gets enough. I have had them tear open bushels of wild-goose plums when ripe, red and soft, and followed them around the orchard to get a shot at them; but they would always fly out from the opposite side of the tree and keep behind it till they reached another, so I could not shoot without putting the whole charge into the tree top. They seldom alight where they can be seen, and seldom remain still long. Adam laid the taking the forbidden fruit to Eve, so here it is the female and young ones who generally do the harm. The males seem to leave very early and go by themselves. Wild turkeys do the same, the old gobblers go in a flock by themselves, and the females and young ones in another, as soon as the mating season is over.

For the American Bee Journal.

Lower versus Upper Ventilation.

R. CORBETT.

"How shall I winter my bees to insure success?" is a question which no doubt occupies the minds of many apiarists at the present day, and even at this season of the year. I have read the many plans set forth in the BEE JOURNAL, and, from my observations, I do not wonder that many fail.

I have been handling bees for over 50 years, in the old box hive, until 1865, and I think I have gained much knowledge from my experience. My memory carries me back to the winter of 1831-32, when there was a snowfall early in January to the depth of nearly 3 feet. The wind changed to the northwest, and blew for over 6 weeks, never changing its course, the mercury ranging from 10° to 20° below zero, and one or two days at 25° below. That winter my bees stood on a bench

two feet from the ground. The hives were raised from $\frac{1}{2}$ to 1 inch, on blocks, open all around the bottom, and out of 17 colonies 16 came through strong and good, while the other starved for want of honey. The bees had not the least bit of ventilation at the top, not so much as to exude their own moisture, which proves that upward ventilation is not necessary. However, I think that bees do need something to absorb their own moisture, but no direct draft.

There are some points in the shape and size of the hives essential. In the case alluded to, I think the hives were 17 or 18 inches deep by 10 inches in the clear. In those primitive days we had no holes cut through the comb for bees to pass through for their food. The honey being above them, it was kept from freezing by their own heat, therefore it was always soft and moist, and ready for them to partake of when they were hungry.

I will refer you to a couple of instances I have read of. Dr. McClain, of Oskaloosa, Iowa, I think, concluded to test the problem of wintering, by putting some in a cellar, burying some, leaving some on the summer stands, and for one he drove 4 stakes in the ground, nailed cleats on the sides of the hive, and hung it by the cleats on top of the stakes, with the mouth 10 or 15 inches from the ground. This hung there for 5 successive winters, good and strong, and how much longer I have no information.

Another gentleman, a Mr. Jackson, for an experiment took one of his colonies and hung it 4 or 5 feet from the ground, against the side of his house, and there it remained 3 successive years. In both instances the mouth of the hive was open full size of the hive. As we do not have 3 or 5 winters in succession without a severe one, I think this goes far to prove that downward is what is needed, and not upward—all other conditions being right. Neither method will save them without provisions of the proper kind. I hardly ever lost any bees that had enough to live on. Once I lost all I had (9 colonies) well filled with bees and honey. I thought I would do things up in a nice manner, and closed the hives all up around the bottom with the exception of a small entrance. I then covered them around the outside to shelter them from the winds and storms, and just smothered them. (This was before I read the BEE JOURNAL.)

Now when I fix my bees for winter, I take the oil-cloth from the top of the frames and lay on my quilts, pressing them down tight at the sides, and using some weight to hold it well in place, then fill with some absorbent and put on a good cap or roof to keep all dry. This is sufficient for the top without any other ventilation. For the bottom I have a manipulating block 2x10 inches with $\frac{3}{4}$ or $\frac{1}{2}$ inch taken out of the bottom of the block for a passage-way. This can be removed when they get a little uneasy, as they sometimes will in the cellar.

From what experience I have had in wintering bees, and from observations for a long time, open bottom

hives are the surest and safest for wintering our pets, whether in or out of cellar, and the plan I have thought of is to take 2-inch planks, 8 or 10 inches wide, set on edge by nailing cleats across the top to hold them firm the width of the hive, or we can take 3 and make a kind of trough, to secure them from the mice. This plan keeps the bees and combs free from all filth that accumulates on the bottom of tight hives, also from stench, which is very offensive, and, I believe, injurious to the bees. Let it be understood, if out-of-doors, they will need the same protection as any other plan. I do hope some of our progressive bee-keepers will try this plan the coming winter, and report conclusions the following spring.

Manhattan, Kan.

CONVENTION NOTES

Local Convention Directory.

1882. Time and Place of Meeting.

April 11—Eastern Michigan, at Detroit, Mich.
A. B. Weed, Sec., Detroit, Mich.

15.—Northern Ohio, at Norwalk, O.
S. F. Newman, Sec.

19, 20—Tuscarawas and Muskingum Valley, at Coshocton, O.
J. A. Bucklew, Sec., Clarks, O.

25—Texas State, at McKinney, Texas.
Wm. R. Howard, Sec.

26, 27.—Western Mich., at Grand Rapids.
W. M. S. Dodge, Sec., Coopersville, Mich.

26, 27.—Western Michigan, at Grand Rapids.
Wm. M. S. Dodge, Sec., Coopersville, Mich.

27—Kentucky Union, at Eminence, Ky.
G. W. Demaree, Sec., Christiansburg, Ky.

May 2, 3—Eastern N. Y. Union, at Cobleskill, N. Y.
C. Quackenbush, Sec., Barnesville, N. Y.

11—Champlain Valley, at Middlebury, Vt.
T. Brookins, Sec., East Shoreham, Vt.

16—N. W. Ill. and S. W. Wis., at Rock City, Ill.
Jonathan Stewart, Sec., Rock City, Ill.

25—Iowa Central, at Winterset, Iowa.
Henry Wallace, Sec.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

The Central Michigan Bee-Keepers' Association will meet April 20, at Lansing, in the Capitol building. Programme.—President's annual address, Rev. J. Ashworth; bee hives and fixtures, E. W. Wood; Cyprian bees, J. Harper; the coming bee, Prof. A. J. Cook; care of old combs, Stephen C. Perry.

REV. J. ASHWORTH, Pres.

A special meeting of the Western Michigan Bee-Keepers' Association, will be held in Supervisors' Hall, Grand Rapids, Mich., Wednesday and Thursday, April 26 and 27, 1882.

W. M. S. DODGE, Sec.

The spring meeting of the Northern Ohio Bee-Keepers' Association will be held at Norwalk, O., on Saturday, April 15, 1882.

S. F. NEWMAN, Sec.

Read before the Marion Co., Ind., Convention.

Spring Management of Bees.

MRS. C. ROBBINS.

The first thing to be done in the spring with bees, is to open the hive and examine each colony, ascertaining whether there are sufficient stores and a queen with which to begin spring work. I have come to the conclusion that we open our colonies too early. We know that every time we disturb them we excite them more or less, and, therefore, they consume more stores. We also know that the bees that have lived over the winter have only vitality enough to rear the bees that collect our stores in summer; therefore we should spare them their forces until the proper time, and not excite them to premature vitality. We know also that eggs laid very early in the season, if there should come a cold snap, are chilled and have to be carried out.

Every apiarist should know whether his bees have enough stores or not to last until natural pollen can be collected, also whether his hives and bees are dry or not. If enough food, then do not open the hive until the bees collect natural pollen. Then we know that the spring is open and that breeding begins in earnest, and that the labors of the bees and apiarist have begun for the season. Even yet, I would not advise removing any of the packing that may be around them. I doubt much the policy of contracting the brood chamber in the spring. Here is one hive, we leave the frames all in that have been in all winter; when the weather is too cold to fly, the bees will clean up the combs and carry the honey from the outside combs to the brood combs in the center, thus giving them employment and not exposing them to bad weather (when the bees are busy we are not troubled with robbers), and, above all, saving the apiarist so much work feeding and putting in extra combs every few days.

Beside this hive stands another. Very early in the spring, or, rather, in the latter part of winter, we open the hive, take out the outside combs that have quantities of stores in them, stir up the bees, looking for a queen that we should be pretty certain was there from thorough examination and ample preparation in the fall, put in feeders and warm syrup. By that day's work we have taken the initiative step to spring dwindling and robbing. As we know that it only takes 6 weeks to build up a weak colony into a very strong one, if we begin the first of March, we will have our colonies ready by the middle of April, and our honey crop in this locality is not collected until the last of May and in June.

The Union Bee-Keepers' Association will meet at Eminence, Ky., on the 27th day of April, 1882. A full attendance is very much desired, as important business will be transacted.

G. W. DEMAREE, Sec.
Christiansburg, Ky.

Bee-Keeping in Maine.

The following are extracts from the opening address of Mr. F. O. Addison, President of the Maine Bee-Keepers' Association, at Dexter, Me., on Feb. 9, 1882 :

The year of 1881 has passed away with its failures and its successes, leaving us wiser by our experience, and better fitted for our several duties in the future. Those engaged in apiculture came through the demoralizing winter of 1880-81 in many cases with but poor courage to begin another season; and the present winter may be even more disastrous. But be not discouraged; try again, and if "luck" is what makes success in bee-keeping, it may be a good turn next.

We can hardly realize the progress of apiculture in this State for the last half century. Although we are as a State still far behind some of our sister states in the quantity of honey produced, we rank among the first as to its quality; and when we become more thoroughly awake to this branch of business, with the territory we have, capable of supporting large apiaries, where from year to year the flowers blossom and die without the hum of the busy bee (except now and then one from its leafy home), when we get this vast territory to yield to us its golden nectar, then we will have for our motto, as bee-keepers, the motto of our state: *Dirigo: "I lead."*

Now, a word about this Association: It is important that we sustain it, as it is what we have long needed in Maine. Other states have their bee associations, and among their numbers we find some of the most successful bee-keepers; and this one, if properly managed, will do us a great amount of good. Although our numbers are now small, yet we must persevere in extending bee-culture more and more, until the dream of the poet shall be realized :

"Each household of an apiary possessed,
Bee-keeping followed with unflagging zest;
Honey and milk shall flow all countries through;
And home, sweet home obtains a meaning new."

There is a certain amount of pleasure which one derives from the care of bees that is both healthful and enjoyable, and if we can only get a fair interest on our money invested, and a reasonable compensation for our time, we should be satisfied; and this any wide-awake apiarist, with the improvements which have been made in bee-culture, can do.

The semi-annual meeting of the Tuscarawas and Muskingum Valley Bee-Keepers' Convention, will be held in the Town Hall at Coshocton, O., on April 19 and 20, commencing at 10 a. m. A cordial invitation is extended to bee-keepers everywhere.

J. A. BUCKLEW, Sec., Clarks, O.

The Champlain Valley Bee-Keepers' Association will hold their semi-annual meeting at Middlebury, Vt., May 11, 1882. T. BROOKINS, Sec.

SELECTIONS FROM
OUR LETTER BOX

Artificial Comb Honey.—Yesterday one of our grocers, with whom I had frequently disputed in regard to the possibility of making artificial comb honey, triumphantly shoved the inclosed paragraph in my face, with the usual "I told you so" clearly marked on every feature. The article was in the *Grocers' Criterion*, published in Chicago. I should like to have the reply come out in the Monthly BEE JOURNAL, so I will get to see it.

J. H. HASSLER.
De Pue, Ill., March 16, 1882.

[The article referred to was that published in the BEE JOURNAL of Jan. 25, page 51, and accredited to Prof. Newton. We have so often denied the probability and possibility of the imposition being practiced, that to do so again at length would be a waste of time and space.—ED.]

Prospects Cheering.—What bee men are in this part of Michigan all have the cheerful words to say, "My bees are coming through all right." I have heard of but 7 colonies being lost. We have had no zero weather this winter, with warm days every few weeks. Last spring I had 30 very light colonies left out of 101; now I expect to go through with my 70. I see the matter of bee feed is being talked up by many; well, I feel like falling in that line myself, as I intend putting in 10 acres this spring. Having sold our place here and bought again at Glendale, Mich. (my correspondents will please notice the change), a very good bee location. I intend making bee-keeping a specialty. Your Apriary Register I think is just the thing, but the large size which I have is rather bulky to carry in the pocket. By having a small memorandum, and then copying at your leisure, I cannot see but what it will be a great help in improving the quality of our bees. I wish every bee-keeper had one.

G. W. NAFTZGER.
South Haven, Mich., March 25, 1882.

The Secret of Success.—We see many ideas as regards bee-keeping. We find the great secret of success is in well wintering and the care exercised that they do not get too warm, or in too cold a place, so they cannot move. I find that the best temperature for wintering is at freezing, and good ventilation to take off the foul gas. The past winter bees did well in most any place. There are more bees lost from starvation than most any other way. They may starve with 30 or 40 lbs. of honey in the hive, i. e., the thermometer may stand from 20° to 30° below zero for 30 to 50 days. The bees are clustered all that time without any food to keep up heat, and thus perish. I am satisfied that I

have lost bees in this way. When bees are smothered you will find them all through the hive; when they freeze they are in a compact body; when they starve, the cluster is loose, with now and then one getting to the cells for supplies. Bees should have as careful attention as stock on the farm. Bee-culture is like any other business—more lose money at it than make money. Bees are in a booming condition here. THOMAS PRALL.
Carlisle, Iowa.

A Voice from Egypt.—I see in the BEE JOURNAL a good many communications from Illinois, but none from this part. I wish people would give the county, then when I look on the map I could locate them; they seem so like neighbors. There is not much interest taken in bee-keeping here. They claim they have no "luck" any more—"the moth eats them up," "The gude mon" saw a neighbor this morning we had heard was a great bee man; found his bees in all sorts of boxes, but he was quite elated at the prospect before him. He had just heard of some kind of hive that had frames a person could lift out and look at, also just heard of extractors—was bound to have both, for he had been informed he could take 8 lbs. a day from each colony. This man is a preacher, and if preachers wake up who knows what will be the result? Well we cannot brag much. ♦ like James Heddon, he says *we*, and believes in women's rights. I think all the James do. When we came on our farm, two years ago, we did not know a drone from a worker, and never saw a queen, and the first two colonies we bought, one was dead with about a teacup full of dead bees. Instead of 8 lbs. a day, we had 15 colonies to feed last summer from the 20th of July to the last of August, when, thanks to a kind Providence, the rain came, and bees filled their hives and gave us about 100 lbs. of surplus. But I thought we had an elephant on our hands, and did not know but we would have to feed all winter. After tinkering one year, we concluded we must have a bee paper. We supposed there must be one somewhere. Accidentally we saw a list of bee literature in some paper, and found the country was flooded. We decided on the *Bee-Keepers' Magazine*, but found a once-a-month bee paper too much like the "onct a month" preaching down here in some places—a slow starvation. The BEE JOURNAL fills the bill. To make any business a success, we must understand the whys and wherefores. It seems bee-keeping has more whys and wherefores than any other business. Now I want to ask two or three simple questions—very simple to those who know. 1. Why should frames be hung from front to rear? We have them both ways; they were hung that way when we bought the hives, and we want the best way. 2. When is the best time to divide bees—before the white clover or after, to get the most honey? 3. We found a plant on our farm that I have been unable to find a name for. Our attention was

attracted to it the 1st of September, by the great number of bees on it. We found only five plants, although we looked far and near; about 5 feet high, branching like mustard, a small pink and white blossom similar to radish bloom; applying the tongue, found the blossom very sweet. I do not know how long it had been in bloom. I found bloom in November, and marked the stalks, but they are all dead, root and branch. I sent seed to Mr. Stewart, Eminence, Ky., who said it was a stranger to him; also to call it Allison's honey plant. I do not like to blow a horn, so I will call it the silver nectarine plant. I inclose a few seeds, as you may be able to throw some light on the plant.

Noble, Ill. MRS. C. J. ALLISON.

[1. The frames are run from front to rear because the bees build straighter combs in that manner; also, because the natural instinct of the bees prompts them to run their combs from the entrance.

2. After white clover, unless fruit bloom is very abundant and the weather pleasant.

3. The seeds are too few and dried to determine the name. Be kind enough to send a twig in bloom this fall, when we will name it, if possible.—ED.]

Honey from Maple Blossoms.—On Feb. 18th my wife was looking at the bees working, when she came in and said, "How the bees fall at the mouth of the hive; they seem to be loaded with honey and pollen." She seemed somewhat excited about the bees working so lively. I went out and saw that they were heavily loaded both with honey and pollen. The maple-trees were plenty, standing all around the hives, and a good many of them were in bloom. I saw the bees take the honey from the blossoms, or, at least, go through the motions. There was nothing in bloom at that time but the maples. I have watched the bees work on corn, but never thought they gathered honey from the tassels; I know they gather pollen from them.

ED. DELAIR.

Oketo, Kan., March 26, 1882.

Brood-Rearing in Wired Cells.—I was told yesterday that there would be no brood reared in cells over the wires in foundation, after it has been used 2 years, except in an occasional cell. Is such the case? I used wired foundation (wire No. 36, tinned) last season, and saw no difference in cells with or without wire. I believe if brood is not reared over the wires after two seasons, I will still use the wired foundation; it is so much stronger and less liable to sag.

A. B. MASON.
Wagon Works, O., March 24, 1882.

[Can some of our correspondents, who have been using wired foundation, give the information desired?—ED.]

More About Mrs. Cotton's Transactions.—I have been waiting patiently since the publication of my letter of Dec. 9, in the BEE JOURNAL, page 40, of this year, in which I offered \$5 for proof that any person had ever sent Mrs. Cotton money for goods and had neither received the goods nor the return of the money—for some person to step forward and claim the money. As yet not a person has intimated to me directly or indirectly that they have any claim on my money, nor did I suppose there would, for I have made a very careful investigation of Mrs. Cotton's affairs and way of doing business, and had become thoroughly satisfied that she was trying to do an honest and legitimate business. The only "peep" I have heard from any one is the query on page 91 of the BEE JOURNAL, by J. W. Merrifield, if I regard a certain transaction described by Mr. Fletcher "as straight." The transaction with Mr. Fletcher is not published, but one with his mother (apparently the same) is published. Mrs. Cotton advertised a "sample" hive for \$4, and, through ignorance, sent a "model" hive instead of a "sample" one. In my investigations, I came across transactions of this kind, but also ascertained that as soon as the difference between "sample" and "model" was pointed out to Mrs. Cotton, she furnished a full-sized hive, and has sent no more "models," nor advertised any more "samples" since. If one will examine the dictionaries for the difference of meaning between the words "sample" and "model," they will find that it is more in the common use of the words than in the actual meaning. Now as to her "model" I make this statement: If a box-hive man should pay for a model, and by it be led to use any movable frame hive, he would be amply repaid, even if he had to pay 95 cents express charges. The transaction was not intended as a swindle, and I think was not.

R. E. HOLMES.
West Winsted, Conn., March 27.

[We have not the slightest desire to hinder any one from doing an honest business, but until Mrs. Cotton adjusts the many complaints against her method of doing business, she certainly has no claim to be reckoned among honorable dealers. She has recently published a vindication in the *Farm and Workshop*, in which she says:

"I have learned that many of the bee journals and bee-keepers' associations are conducted wholly in the interests of some individual or company for the sole purpose of making money for the sale of some particular, and often worthless, bee hive or fixture, without regard to its real merit or value to the practical bee-keeper. The country is full of this class, and they always combine to crush out real merit in anything pertaining to bee-culture brought before the public by individual bee-keepers. The greater the merit of

the invention, the greater the effort to crush it."

This is a bare-faced falsehood; she has been doing business in such a manner that her customers complain, and the bee papers, much against their inclination, have given place to the facts as stated by their correspondents, simply in the interests of honest dealing, and to protect the innocent from being imposed upon. When she has satisfied her complainants will be quite time enough to attack the bee periodicals, until then, she must expect adverse criticisms.—ED.]

Queens Behind Division Boards.—By answering the following questions you will very greatly oblige: 1. Are queens often found to lay behind the division board? While preparing 7 colonies in American frames last fall, I placed a comb behind the division board in each hive, with the hope that the bees would carry the honey forward. They were not crowded for room in front. On examination, two days later, I found all the vacant cells had been used in these combs by the queens—an egg in each. This happened in 5 out of the 7 colonies. It was the end of November. The queens are hybrids. All the combs in the body of the hives contained brood. I put this forward also. Examined the bees early this month and found many very young ones among them. They were all packed in a straw clamp in a sheltered position. 2. Are the queens likely prolific? 3. What amount of honey can be put into 1 lb. of comb? 4. How do the Arkansas brown bees compare with the blacks in essential qualities; and the albinos with the Italians? 5. I find there are 2 sizes of Langstroth frames used—the one about $\frac{1}{2}$ inch shorter than the other. The former will just contain 8 $4\frac{1}{4} \times 4\frac{1}{4}$ section boxes. Can you tell me which size is the more used? Spring seems rather behind this year, nothing budded yet and the weather cold; but today we are having warm showers. Bees have wintered well so far.

G. B. JONES.

Berlin, Ont., March 27, 1882.

1. Very seldom, and then only when the passage-ways are large and the brood chamber crowded.

2. Yes; they had been packed away quite warmly, and the winter being unusually open toward the latter part, young bees had an opportunity to arrive at maturity.

3. We do not know.

4. They are said to be larger, are straighter and more rapid comb-builders, remarkably docile in disposition, and of strong flight. They do not run down and drop from the combs as do the blacks, unless persistently smoked. We cannot answer your interrogatory regarding albinos, as our knowledge

regarding them has been derived from our columns. We suppose, however, inasmuch as they are Italians, their habits in many respects are similar. Probably their points of superiority, if any, have been developed by a careful and judicious breeding.

5. The standard Langstroth frame is $9\frac{1}{8} \times 17\frac{1}{8}$ inches, outside measure; the top-bar being $19\frac{1}{8}$ from end to end. This holds $8\frac{1}{4} \times 4\frac{1}{4}$ sections. This size is mostly used.—ED.]

How I Use the Bee Journal.—The binder for the BEE JOURNAL is just the right thing. I have all the numbers, so far, for 1882, put in tight and nice. It is so handy, when one writer refers to another, to turn back and see what he has said. In this way we get the ideas of different ones on the same subjects. Bees have wintered well and are strong; drones were flying from my large palace hive on March 20. I predict a large flow of honey this season.

AARON BENEDICT.
Bennington, O., March 23, 1882.

My Misfortunes.—Two years ago I bought 5 untested or dollar queens from a noted queen breeder, whose name I will withhold at present; 4 out of the 5 produced hybrid workers. Last spring I purchased a \$3 tested queen from another big bee man in good standing. She laid eggs 4 weeks and died of old age. For fear some one will ask how you know she died of old age, I will state, first, I claim a judge of bees can tell an old bee or queen at a glimpse; second, an old queen does not keep her hive well stocked with bees. This is the best proof of an old queen I can give. In July I purchased another tested queen of the same man; she kept her hive fairly stocked until October, when she failed. On examining this spring, I find she is worthless. The worker larvae is very scarce, and there is about half a frame of drone larvae in the hive, while all my other colonies have from 4 to 6 frames of brood. Now, I would like for some one to tell us what we are to do to avoid being swindled. When one wishes to Italianize his apiary it will not do to buy untested or dollar queens. My experience in the five above mentioned, 4 were worthless, making the good one cost me \$5, and the majority of the tested ones are so old they are ready to die when we get them. Fortunately, I have a good strain, and can rear my own queens hereafter.

Poseyville, Ind. J. F. KIGHT.

[It is easy to understand how your first tested queen might have been old, as, having been purchased quite early in the season, the party from whom she was purchased had wintered her over and forgotten her age, and, not having time or neglecting to test her anew, took it for granted she was all right. With an "Apiary Reg-

ister" properly kept, it would be impossible for these mistakes to occur. We can hardly imagine how to account for the failure of the queen sent you in July, if she had been bred and tested by the person from whom you obtained her.—ED.]

Combs Destroyed by Moths.—Bees are bringing in pollen and some honey, although they are sitting on fences, trestles and anything convenient, on account of the floods which have swept through here. My bees brought in pollen in December, and they have not quit brood-rearing during the winter. I have failed to keep my extra combs over winter on account of moths. Will some one give me their plan of preserving them? I hung mine in a tight room, and burnt sulphur at the rate of one pound in two weeks, and yet they ruined them.

W. G. McLINDON.
Lake Village, Ark., March 28, 1882.

[You did not use sulphur enough. They should be fumigated with it several times, at intervals of about 10 days, and using at least a pound of the sulphur at each operation. If you have interchangeable second stories, a good plan would be to fill a hive with combs, then set on a second story with no bottom, fill that with combs, then put on a third, and so on till all the combs are hung in bottomless hives over each other; now put on an empty second story, place in this an iron pot with some live coals in it, then plenty of sulphur, and cover the hive; open the entrance of the lower hive to afford a draft. Sulphur fumes being heavier than air, they will slowly descend, and destroy all insect life. The operation will need to be repeated about three times, to kill the larvæ which may hatch after the first and second operations. The trouble with fumigating with sulphur ordinarily is that, unless the room is very close, the combs get very little smoke, as they are usually hung up, and the fumes do not ascend, but escape from the lower sides of the building.—ED.]

Honey from Corn.—I can tell Mr. Mahin that bees do gather honey from corn tassels, and if he will call at my house he can have some very nice corn honey to eat, which my bees gathered late last fall from a patch of fodder-corn that I sowed just before harvest. The weather set in dry, and it made very little growth till in September, when the rain came and the corn started growing. It soon tasseled out and blossomed profusely, and as there was no frost till late in the fall, my bees had a rich harvest. The way they filled up their section boxes was a joy to behold; they worked on that corn as long as there was a green tassel left. Probably that corre-

spondent in *Gleanings*, referred to by Mr. Mahin, is a closer observer than he (Mr. Mahin) is aware of; but that bees gather honey from corn tassels is no new feature to me. What say other bee-keepers? Now, I want to ask a question—do bees ever refuse to work on melilot clover? I had a patch last summer, the seed of which I obtained from Chicago, but the bees paid no attention to it. I inclose a sample of the seed, is it genuine.

West Liberty, O. L. Z. LANTZ.

[The seed you send is genuine. We never but once before heard of bees refusing to work on sweet clover, and in that instance there were but few stalks of it within reach. There is, however, a variety of sweet clover which produces yellow blossoms, on which we do not believe the bees will work to any extent; but the white blossomed (*melilotus alba*) will, if growing to any extent, always be covered with bees.—ED.]

Feeding Maple Sugar.—I am wintering my bees in a cellar, and am feeding some of them with maple sugar, by laying it on the frames. Is it good feed for them? C. M. SLACK.

Eldred, Pa.

[A mild winter, such as this has been, it may do; but we would be fearful of the consequences, unless they were out-of-doors and could fly frequently.—ED.]

Color, Pleasure and Profit.—I apprehend the color most eagerly sought after, by the majority of apiarists, is the color of the pocket, and those which give the most universal satisfaction are the greenback color or gold metal hue. It matters not to the great mass of bee-keepers whether the contents of the hive are gathered by brown, black, yellow, or leather-colored bees, provided these products swell the aggregate amount of profits each year, and return to their owner satisfactory remuneration for the labor bestowed upon them. The profits are what 99 out of 100 keep bees for. Talk of keeping bees for pleasure, without profit, if you can show me such an apiarist, I must candidly confess that I have seen a curiosity of the genus *homo*. If bending over hives, examining nuclei, extracting honey, cutting out and inserting queen cells, rendering beeswax, caging and shipping queens, and writing a score of letters daily is a pleasure to while away the leisure moments from other pursuits, I must cheerfully confess that I will be somewhat careful about calling for pleasure too often when traveling. What the mass of bee-keepers want is plain, practical knowledge in the mode of keeping bees. What cares the average bee-keeper for the fine hair-splitting points regarding the color of the bee; they would rather have one inch of Mr. Doolittle's plain, practical experience conveyed to paper in his instructive

manner, than reams of fine points and theoretical reasonings. I think all of even a limited experience, are ready to admit that, by judicious selection from colonies possessing the most desirable qualities, we can breed our bees up to a high standard of profit.

Fredonia, N. Y. U. E. DODGE.

Bokhara or Sweet Clover.—I would like to know if Bokhara clover and sweet clover are one and the same thing? 2. How much is sown to the acre. 3. What is the cost per lb.? My bees are in the cellar and doing well. Have not lost any yet, nor do I expect to. I am beginning; but will report my progress next fall, all being well.

A. SUBSCRIBER.

Columbus, Ont.

[1. We believe Bokhara or sweet clover (*melilotus alba*) to be the same; at least we fail to observe any difference, and we have frequently seen them growing together. The bloom, too, is apparently the same.

2. Five or six pounds. If in drills, a little less.

3. The retail price in Chicago has been 30 and 50 cents per lb. The former for domestic, and the latter for imported seed.—ED.]

Grease in Foundation.—In manufacturing foundation comb, is grease of any kind extensively used? and if so, is it sometimes, or very frequently, of a filthy nature, or that taken from diseased animals? Quite recently I saw it asserted in a very influential paper, that such is the case. If it savors of the oleomargarine fraud, I want to know it, for above everything else, let my "sweetness" be pure. As your valuable JOURNAL occupies the front rank in publications of the kind, will you kindly give your views, and the facts as far as you are able, to the public, through its columns, as there are doubtless a great many others, like myself, who would be glad to hear from you on the matter. Bees are doing well, and, as a general thing, no thanks to their keepers, for there is very little intelligent care given them in this country.

Salado, Tex. W. P. HANCOCK.

[It is not true that grease is used in the manufacture of foundation. It is possible that some inexperienced persons may have tried greasing the rolls, to release the sheets from them, but even such would soon be obliged to abandon the practice, as their bees would utterly refuse to work it out, and customers would be apt to return it to the manufacturer because of its worthlessness. The freshest, purest and brightest wax in the foundation, makes it most acceptable to the bees, and, consequently, most profitable to the bee-keeper. Even soap-suds, with which to wash the rolls, is very objectionable.—ED.]

ADVERTISING RATES.

20c. per agate line of space, each insertion.

A line of Agate type will contain about **eight words**; fourteen lines will occupy 1 inch of space. Transient Advertisements payable in advance.

Special Notices, 50 cents per line.

DISCOUNTS will be given on advertisements published WEEKLY as follows, if the whole is paid in advance :

For 4 weeks.....	10 per cent. discount.
8 ".....	20 "
13 ".....	30 "
26 ".....	40 "
39 ".....	50 "
52 ".....	60 "

Discount, for 1 year, in the MONTHLY alone, 25 per cent., 6 months, 10 per cent., 3 months, 5 per cent.

Discount, for 1 year, in the SEMI-MONTHLY alone, 40 per cent., 6 months, 20 per cent., 3 months, 10 per cent.

Advertisements withdrawn before the expiration of the contract, will be charged the full rate for the time the advertisement is inserted.

THOMAS G. NEWMAN,

974 West Madison Street, Chicago, Ill.

Special Notices.

To Advertisers.—By reference to our schedule of rates for advertising by the year, it will be seen that considerable reduction has been made. This, in connection with our large and increasing circulation, makes it advantageous to dealers to avail themselves of its weekly visits to the bee-keepers of America to make their announcements for the coming season's trade. We not only offer the *best* advertising medium, but the lowest rates on yearly contracts.

A Sample Copy of the Weekly BEE JOURNAL will be sent *free* to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

The BEE JOURNAL is mailed at the Chicago Postoffice every Tuesday, and any irregularity in its arrival is due to the postal employes, or some cause beyond our control.

"How do You Manage," said a lady to her friend, "to appear so happy all the time?" "I always have Parker's Ginger Tonic handy," was the reply, "and thus keep myself and family in good health. When I am well I always feel good natured." See other column.

Binders for 1882.—We have had a lot of Emerson binders made especially for the BEE JOURNAL for 1882. They are lettered in gold on the back, and make a nice and convenient way to preserve the JOURNAL as fast as received. They will be sent post paid by mail for 75 cents.

Premiums.—Those who get up clubs for the Weekly BEE JOURNAL for 1882, will be entitled to the following premiums. Their own subscription may count in the club :

For a Club of 2,—a copy of "Bees and Honey."	
" " 3,—an Emerson Binder for 1882.	
" " 4,—Apriary Register for 50 Colonies, or Cook's (Bee) Manual, paper.	
" " 5,— " cloth.	
" " 6,—Weekly Bee Journal for 1 year, or Apriary Register for 200 Col's.	

Or they may deduct 10 per cent in cash for their labor in getting up the club.

We will send Cook's Manual in cloth, or an Apriary Register for 100 colonies, and Weekly BEE JOURNAL for one year, for \$3.00; or with King's Text-Book, in cloth, for \$2.75.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

To any one sending two new Weekly subscribers for a year, we will present a volume of the BEE JOURNAL for 1880, bound in paper covers. It contains much valuable information, and it will pay any one who does not already possess it, to obtain a copy. Many of our *new* subscribers will be pleased to learn that they can get it for \$1.00, by sending for it *at once*, before they are all gone.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or \$8 per 100.

Advertisements intended for the BEE JOURNAL must reach this office by Saturday of the previous week.

The Texas State Bee-Keepers' Convention will hold its meeting at Judge W. H. Andrews' Apriary, at McKinney, Texas, April 25, 1882.

WM. R. HOWARD, Sec.

For man it has no equal; for beasts it is not excelled. What? Kendall's Spavin Cure.

To Promote a Vigorous Growth of the hair, use Parker's Hair Balsam. It restores the youthful color to gray hair, removes dandruff, and cures itching of the scalp.

11w5t

CLUBBING LIST FOR 1882.

We supply the Weekly American Bee Journal and any of the following periodicals, for 1882 at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage is prepaid by the publishers.

<i>Publishers' Price.</i>	
The Weekly Bee Journal,.....	\$2.00.
and Gleanings in Bee-Culture (A.J. Root) 3 00..	2 75
Bee-Keepers' Magazine (A.J. King) 3 00..	2 60
Bee-Keepers' Instructor (W. Thomas) 2 50..	2 40
The 4 above-named papers.....	4 50.. 4 00
Bee-Keepers' Exch'ng (Houk & Peet).....	2 50.. 2 25
Kansas Bee-keeper.....	2 00.. 2 40
The 7 above-named papers.....	6 30.. 5 50

The Weekly Bee Journal one year and Prof. Cook's Manual (100 in cloth) 3 00..	3 00
Bees and Honey, (T. G. Newman)	2 40.. 2 25
Binder for Weekly, 1881.....	2 85.. 2 75
Binder for Weekly for 1882	2 75.. 2 50

Honey and Beeswax Market.

OFFICE OF AMERICAN BEE JOURNAL, Monday, 10 a. m., April 3, 1882.

The following are the latest quotations for honey and beeswax received up to this hour :

Quotations of Cash Buyers.

CHICAGO.

HONEY—As the season is well advanced, sales of extracted honey are slow and prices remain unchanged. I am paying 8c. for dark and 10c. for light, cash on arrival. Good comb honey is scarce and rules high.

BEESWAX—I am paying 22c. for good yellow wax, on arrival; 18@20c. for medium grade, and 15@17c. for dark.

AL. H. NEWMAN, 972 W. Madison St.

CINCINNATI.

HONEY—The demand for comb honey is slow, and prices nominal at 16@20c. on arrival. Extracted honey is in fair demand. Our jobbing prices for 1 lb. jars of clover honey are per gross, \$25.; for 2 lb. do., per gross, \$42. The demand for manufacturing purposes is very good. We pay 8@10c. on arrival.

BEESWAX—Brings 18@22c. The demand exceeds the offerings.

C. F. MUTH.

Quotations of Commission Merchants.

CHICAGO.

HONEY—Choice white comb honey is very scarce and commands 22@25c. per pound. Other grades, partly dark and dark are very slow sale. Extracted firm at 9@12c., according to quality and style of package.

R. A. BURNETT, 165 South Water St.

NEW YORK.

HONEY—There is a liberal supply of honey here for which trade is very little demand, and prices rule weak and irregular.

We quote as follows: White comb, in small boxes, 18@19c.; dark, in small boxes, 12@14c. Extracted, white, 10@11c.; dark, 7@9c.

BEESWAX—Prime quality, 21@23c.

THORN & CO., 11 and 13 Devoe avenue.

SAN FRANCISCO.

HONEY—The bright prospects for a large yield this season is causing spot lots to be offered at reductions on late asking rates. White comb and white extracted are virtually out of market, and prices for them nominal.

We quote white comb, 16@20c.; dark to good, 10@14c. Extracted, choice to extra white, 8@10c.; dark and candied, 7c.

BEESWAX—Prime quality, 21@25c.

STEARNS & SMITH, 425 Front Street.

BOSTON.

HONEY—Trade quiet. We quote at 20@22c., according to quality.

BEESWAX—Prime quality, 25c.

CROCKER & BLAKE, 57 Chatham Street.

ST. LOUIS.

HONEY—Strained, dull, at 8@9c.; no comb here to speak of—worth 18@22c.

BEESWAX—Stiff at 20@21c. for prime.

R. C. GREER & CO., 117 N. Main Street.

CLEVELAND.

HONEY—The market remains unchanged; 1 and 2 lb. sections of No. 1 white are in regular and quick demand at 21@22c. No. 2 white has dropped a little of late, but took a lively start to-day at 20c. cleaning out all stock on hand. Buckwheat no sale. Extracted is quite active at 12c. for small and 11c. for large packages.

BEESWAX—25@30c.

A. C. KENDEL, 115 Ontario Street.

Advertisements.

THE AMERICAN BEE JOURNAL is the oldest Bee Paper in America, and has a large circulation in every State, Territory and Province, among farmers, mechanics, professional and business men, and is, therefore, the best advertising medium.

BINCHAM'S CORNER.

Columbus, Ind., March 23, 1882.

GENTS: Your smoker circular came to hand this morning. I notice the price for your largest (24 inch) is \$1.75 by mail; but in your advertisement in the Bee Journal you mention the prices from 65 cents to \$2.00 each. Now, as I want one of your Largest and Latest Improved Smokers, I send you the \$2.00. Please send by mail, and oblige.

Yours, respectfully, JOS. M. BROOKS.

P. S.—I have been using one of your first make for five years I think, and although it has received constant rough treatment, it is yet good for duty, and as my brother will use it this season, I now order another for my own use.

J. M. B.

Sweet Clover Seed Wanted.

I wish to purchase several bushels of Sweet Clover (*Melilotus alba*) Seed. Address, stating quantity and price.

A. H. NEWMAN,

12WtF 972 W. Madison Street, Chicago, Ill.

FOR SALE—150 Colonies of Italian Bees in Improved Quinby hives, in prime condition.

97WtL T. C. AXTELL, Roseville, Warren Co., Ill.

HONEY PLANTS AND TREES

BY MAIL, POSTPAID.

Ten Basswood Seedlings, 25c.; 10 Catalpa specimens, good as basswood for honey, wood never decays, 25c.; 12 Turner Raspberry, stand Dakota winters, splendid for fruit and honey, 25c. Special rates by the 100 or 1,000.

H. M. MORRIS,
10W5t Nurseryman, Rantoul, Ill.

1882—J. S. TADLOCK.—1882

LULING, CALDWELL CO., TEXAS.

Breeder of Pure Italian Queens. I use one of J. H. Nellis' best imported queens. Tested Queen, \$2.50; per half-dozen, \$13.50. Select Tested, \$3; per half-dozen, \$16. No "Dollar" or nuclei-queens handled. Safe arrival and satisfaction guaranteed, if possible.

14W39t

BEES and HONEY

FOR SALE.

JNO. P. HOLLOWAY, Monclova, Ohio.

WANTED—A good, temperate, industrious man that has had some experience in the business, to work in an apiary. Give age, experience, and wages wanted. Address.

W. D. WRIGHT, Knowersville, Albany Co., N. Y.

14W11tp

BINGHAM SMOKERS.

I can sell the above smokers at MANUFACTURER'S PRICES, by mail or express, at wholesale or retail. All the latest improvements, including the CONQUEROR.

Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.

ALFRED H. NEWMAN,
972 W. Madison, CHICAGO, ILL.

EGG-KEEPING COMPOSITION—Used by some of the largest egg dealers in Western N. Y., for keeping spring and summer eggs for fall and winter market. A good business, when suitably located, to follow with bee-keeping. Write for terms and particulars.

C. R. ISHAM,
Peoria, Wyo. Co., N. Y.

ITALIAN BEES AND QUEENS.

Full Colonies, Nuclei, Tested and Untested Italian Queens, bees by the pound. I guarantee safe arrival. Address, OTTO KLEINOW.

Opposite Fort Wayne, Detroit, Mich.

13WtF

THE RURAL CANADIAN,
A Fortnightly Journal of
Agriculture, Horticulture and Rural Affairs.
Edited by W. F. CLARKE, and

Published at 5 Jordan street, Toronto, Ontario, Canada, at \$1.00 a year, by C. Blackett Robinson, Liberal inducements to local agents.

44Wtf



FREE! FREE!

Send for our 28-page Illustrated Catalogue of Bees, Queens and Bee-Keepers' Supplies before purchasing elsewhere. Cholice bees, good goods, and satisfaction guaranteed.

11WtF E. A. THOMAS & CO., Coleraine, Mass.

Bees and Queens a Specialty.

I have a choice lot of Tested Italian Queens, also Full Colonies of Bees, I offer for sale cheap. I shall breed and have for sale after June 1st, young Queens from the best of Imported stock. Satisfaction guaranteed. Price list free.

11W5m I. S. CROWFOOT, Hartford, Wis.

THE LATEST and THE BEST.

The Excelsior Cold-Blast Smoker sent to any address, postpaid, on receipt of \$1.00.

14W2tp W. C. R. KEMP, Orleans, Orange Co., Ind.

65 ENGRAVINGS.

The Horse

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
974 West Madison Street, CHICAGO, ILL.

CHEAP.—CHEAP.

We offer for sale 150 good Colonies of pure Italian and Cyprian Bees, mostly in Langstroth and American Hives, at \$4 each; 100 new, painted, Langstroth and American Hives, at \$1.50 each; 3,500 Boss Sections, \$2 per 500; about 30 Queens, tested, \$1 each; 300 lbs. Comb Foundation, 30c. per lb; two new Extractors, Muth's and Everett's, \$4 each; one 12-inch roll Foundation Machine, \$15. We will pay shipping charges on orders of \$5 and upwards. Satisfaction given or money refunded.

11WtF A. T. SEDGEWICK, Corning, Ohio.

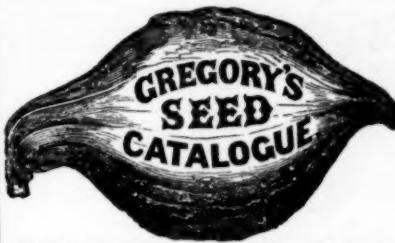
Florida Land--640 Acres

CHEAP FOR CASH.

DESCRIPTION.—Sec. 4, township 7, south range 7 west, Franklin county, Florida, situated about 50 miles south of the Georgia line, 25 miles west of the city of Tallahassee, the capital of the State, and about 25 miles northeast of the city of Apalachicola, a seaport on the Gulf of Mexico, and within 2 sections (5 and 6) of the Apalachicola river; the soil is a rich, sandy loam, covered with timber. It was conveyed on Dec. 31st, 1875, by Col. Alexander McDonald, who owned 6 sections, including the above, to J. M. Murphy, for \$3,200, and on Sept. 5th, 1877, by him conveyed to the undersigned for \$3,000. The title is perfect, and it is unencumbered, as shown by an abstract from the Records of the county, duly attested by the County Clerk; the taxes are all paid and the receipts are in my possession.

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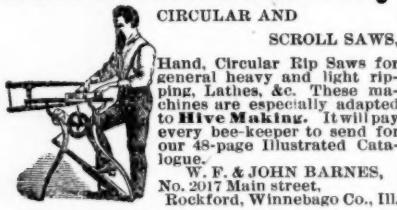
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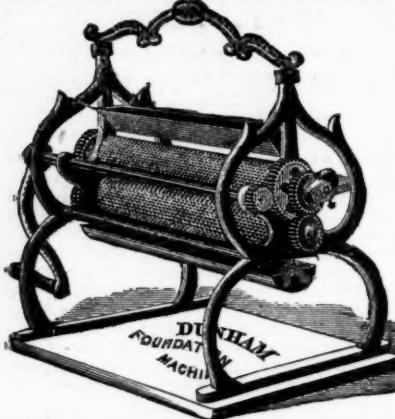
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